

GROWING *HELIAMPHORA* INDOORS YEAR-ROUND.

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I am successfully growing the following *Heliamphora* indoors and thought I would share my experiences with the CPN readers.

H. nutans

H. ionasii

H. sarracenioides

H. hispida

H. heterodoxa x *minor*

H. elongata

H. follicularis

H. neblinae

First, I highly recommend starting with one of the hybrids, such as *Heliamphora heterodoxa* x *minor*. It's a great, hardy plant that will teach a beginner some of the likes and dislikes of the genus, without costing you too much if it dies! Cooling for most species can be achieved by watering with lightly chilled water before you shut off the growlights and also ventilating with a small, low-power fan which can be purchased at any hydroponics shop. In my conditions, such species as *H. hispida*, *H. ionasii*, *H. neblinae* and *H. elongata* seem to require *more* of a nightly temperature drop than most other species and hybrids.

I set my grow tanks sideways with the opening to the front. This allows the lights to be placed on top of the glass to minimize heating during photoperiod. The glass is the perfect insulator for the bulbs and the light-spectrum is barely altered. This allows you to bring your pitchers closer to the lights, with less risk of pitcher burn. A constant, light breeze is VERY important if your pitcher tops are within a few inches of the bulbs, even with the glass between them. I prefer my pitchers to be about 10 cm (4 in) from the glass/bulbs. This safely gives the plants superb coloration, combined with good size and pitcher form. This also allows for the light breezes from the fan to enter the front and circulate throughout the chamber. Currently, I run two chambers, a 375 l (100 gal) and a 285 l (75 gal) aquarium as such, with a total of twelve 40 watt Agri-Sun tubes, on a 14 hr photoperiod. In winter, I reduce the photoperiod to 11 hrs for three months, since average indoor temperature is naturally kept 5-8°C (10-15°F) degrees cooler than in summer. By doing so, I have now given my *Heliamphora* a winter...or so they think!

This practice seems to induce flowering in my mature plants. Very importantly, I make sure my plants are placed high in their pots of pure living Florida *Sphagnum* moss. The media surface should not be below the rim's edge. This practice allows for some evaporative cooling to take place during the day and most importantly at night. Try to be careful and exercise care when working in the chamber. There's no feeling like snagging and breaking a perfectly formed nectar spoon from a huge *Heliamphora follicularis* pitcher, two days before it even opens!

Here's my daily summer and winter regime for year-round *Heliamphora* cultivation indoors. Keep in mind that I live in Florida, which is tropical and everyone's growing conditions are different, but this method should work for anyone who keeps their grow rooms about the same temperatures as mine. Never be afraid to experiment to find what works best for you.

Winter- 11 hr photoperiod. First misting with pure RO water when lights first come on. Fan runs constantly while lights are on and off, but fan shuts off for 2 hrs prior to photoperiod beginning, to allow for humidity to build in chamber. This mimics the dew or fog that usually occurs prior to sunrise *in situ*. Since the humidity in winter is much lower inside and outside, I mist four times daily in winter, every 2 1/2 to 3 hrs whenever possible. This gives me a constant humidity level of 60 to 65 percent.

Proper air circulation is a must and can be monitored. Excellent wind vanes can be made by using a 15 cm (6 in) long, 6 mm (1/4 in) wide piece of reflective Mylar taped near the center, 15 cm (6 in) away from each end of the chamber. You want to see the Mylar strips moving at all

times. Plants are then watered with lightly chilled RO water around the outside edges of the pots to avoid too much shock to the roots. Too much of a temperature drop at one time, and may shock your plants. My patio serves as a perfect natural cooler during our mild Florida winters.

I like my water temperature to be around 15°C (59°F). And so do my plants. The main challenge is getting your pots and media to cool at night. If your plant's pots are cool at night, then naturally your chamber will cool some also via evaporative cooling. I call the mounded plantings "The Wicking Effect", due to the ability of the breeze to partially pass throughout the top of the media, thus sustaining chilled water deep down in the pot, for a longer period.

To change seasonal photoperiod times, increase or decrease lighting by one hour increments over a three week period. During winter, temperatures are 18-20°C (64-68°F) at night and 25-27°C (77-80°F) by day (with an 11 hr photoperiod). Humidity is 60-65% constantly, fluctuating up to 70-75% after misting plants and chamber. Misting is done four times daily to compensate for lack of humidity indoors. Watered with lightly-chilled RO water prior to "lights out" until pots drip. Constant air circulation 22 hrs a day.

Fan clicks off for two hours via timer to simulate sunrise. During summer, temperatures are 22-23°C (71-73°F) at night, 27-28°C (80-82°F) by day (with a 14 hr photoperiod). Humidity is 70-75%, fluctuating up to 85-90% after misting. Misting only needed three times a day due to increased indoor humidity. Water pots until dripping with lightly-chilled RO water prior to "lights out". Note: During Summer, on Tuesdays and Fridays, I only run half of the lights in the chambers for 14 hrs to mimic the cloudier/lower spectrum days *Heliamphora* would experience *in situ*. Misting is doubled during these days to mimic rainy, wetter conditions.

And, there you go! I hope that this article helps some growers to successfully cultivate this most seductive and beautiful genus.



Figure 1:
Heliamphora tank setup



Figure 2:
A happy *Heliamphora folliculata*